Clinical Section

The Common Anaemias of Infancy*

By

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It is common to find that whenever the subject of infantile anaemias is mentioned, listeners throw up their hands in horror. The subject is considered to be a complex maze through which one finds one's way with difficulty or not at all. It must be admitted that there are atypical forms of anaemia in childhood which cause a great deal of confusion. This is particularly true in erythroblastic anaemias and in those anaemias where the causative factor seems to be excessive red cell destruction. But for practical purposes, these rare and confusing types of anaemia are not of importance. Out of the morass of doubt surrounding the subject appears one fact of importance: that the majority of anaemias affecting infants and young children are deficiency anaemias. The deficiency may be one of hemopoietic function, or a deficiency of iron or some other essential part of the hemoglobin molesule. The important point is that stimulation of hemopoiesis or supplying the deficient blood-building material will bring about a cure.

In the treatment of these anaemias the most important therapeutic agent is iron, although other methods of therapy may be resorted to from time to time. This paper will serve its purpose if it emphasizes two points: That most childhood anaemias are deficiency anaemias; and that iron cures most of them. At the same time we shall give general consideration to the common forms of anaemia in infancy, and the methods of treatment in use in the Children's Hospital.

By definition anaemia is a state in which the hemoglobin is in less than normal proportion to the blood volume. Literature on the subject is filled with various classifications, all more or less complicated, which attempt to label all anaemias according to the blood picture or to the pathological tissues which produce them. Cooley suggests a classification which is admirable for our purpose, which is to keep the question under discussion as simple as possible.

We find then that an anaemia can result only from the following:

1. Direct blood loss, acute or chronic.
2. Failure of Red Cell formation.
3. Excessive Red Cell destruction.
4. Failure of hemoglobin formation.
5. Combinations of the preceding.

1. *Direct Blood Loss.*

The effect of direct blood loss in the production of an anaemia is obvious. Although the immediate effect is not one of reduction of hemoglobin in proportion to blood volume, the influx of fluid from other body tissues rapidly brings about such a state.

2. *Failure of Red Cell Formation.*

(a) Hypoplastic states of the marrow, or Aregenerative Anaemias. Here the erythropoietic activity of the marrow is partially or completely suspended although the capacity for function is still present. Hypoplasia is common in the anaemias due to infection, where the infection depresses the marrow. Similar are the anaemias in states of malnutrition where the general metabolic level is low and marrow function sluggish. Such marrow hypoplasia is manifested by an anaemia without the commonly recognized signs of red cell regeneration, such as macrocytes, polychromatophilia, reticulocytes or nucleated red cells. It is distinguished from the Aplastic states by the fact that there is not the extreme depression of leukopoiesis seen in the latter.

(b) Aplastic states.

In these there is destruction of so much marrow tissue that red cells sufficient for the body needs can no longer be produced. Such a state can be brought about by poisons such as benzol, arsphenamine, x-rays or radium; by septic processes; or by crowding out of the marrow by pathological tissue, as in leukemia, Hodgkin's disease or malignancy.

3. *Excessive Red Cell Destruction.*

Signs of red cell destruction may be found in many types of anaemia, but are not evidence that excessive destruction is the essential factor in the production of the anaemia. Many infectious conditions produce red cell destruction, usually by fragmentation, occasionally by phagocytosis. This may be due to the action of the toxin on the marrow, so that defective cells are produced, or to the action of the toxin on the red cell itself, making it more fragile. Infection at the same time produces hypoplasia of the marrow, and signs of hypoplasia may persist after signs of increased cell destruction have disappeared.

4. *Failure of Hemoglobin Formation.*

Considering the make up of the hemoglobin molecule it is evident that there can be more than one explanation for insufficient hemoglobin formation. Lack of available iron is an obvious and traditional explanation but, theoretically at least, lack of the pyrrhol nucleus or the amino acids that go into making the globin fraction can be

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responsible. In cases refractory to treatment with iron alone the response to therapy with substances other than iron may be evidence that deficiency of iron is not solely responsible. This will be dealt with later, when speaking of therapy.

5. *Combination of two or more factors.*

Seldom is one of the factors mentioned above solely responsible for an anaemia. For example, in infections, an anaemia may be produced in which the elements of hypoplasia and increased cell destruction are associated; or long continued bleeding so depletes the body of blood building materials that a deficiency results; or a nutritional anaemia, caused usually by lack of iron, is complicated sooner or later by an infection, adding a hemolytic element. Thus, from the standpoint of etiology, the question of anaemia is apt to be complex, and the blood pictures which one sees will vary with the factors which produce them.

In this paper we do not propose to discuss any of those rare but interesting types of anaemia which so vex the spirit of the hematologist. Any remarks will be limited to the three common types which affect infancy, and which are:

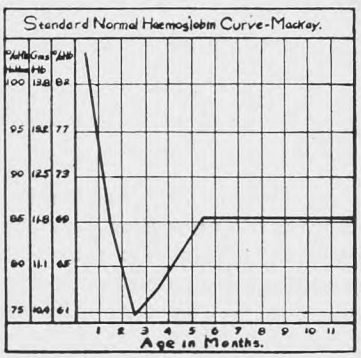
1. Physiological anaemia.
2. Anaemia of the premature infant and twins.
3. Dietary or Nutritional Anaemia, which may be simple or complicated by infection.

1. *Physiological Anaemia.*

It is scarcely correct to call this condition an anaemia at all, inasmuch as the definition of anaemia is one of a pathological state. Helen Mackay has emphasized the fact that the average hemoglobin value of infants at various ages varies considerably from the adult value. This work has been confirmed by many investigators in different parts of the world on various classes of the population. The actual values reported by these other observers do not agree exactly with those reported by Mackay, the differences depending largely upon the part of the country and the class of population from which the material is drawn. All estimations however show the same general type of curve. The hemoglobin value at birth is high, and declines rapidly to the third month of life. This is followed by a rise to the sixth month. The six month value is pretty well maintained till the end of the second year. Thereafter there is a gradual rise to the age of puberty, when the adult values are reached.

Breast fed babies and artificially fed babies show the same type of curve, but the values are higher in the breast fed group. Mackay showed that the routine administration of iron resulted in a higher average value, with a similar type of curve. Josephs, in Baltimore, obtained a similar result in a control group in which all possibility of infection was avoided. Probably the differences reported by various investigators depend upon the nutrition of the infants, the home hygiene and the health and diet of the mothers during pregnancy.

Mackay's figures are reported from a group of dispensary patients in the east end of London, living under what could be considered very poor conditions. Figure 1 is a representation of the values reported from this group. They can probably be accepted as low normal values for hemoglobin at various ages.



Whether or not one accepts these exact values as being normal, it is evident that there is a low level of hemoglobin during childhood, especially during the first two years. This is physiological, and is probably due to a lag in hemopoietic function as compared with the general growth of this period. The point to be made is this, that one should not expect hemoglobin values of 100% in infancy and thus be led into the error of considering every low hemoglobin value as evidence of a pathological condition.

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2. *The Anaemia of Premature Infants and Twins.*

It is well known that all premature infants and most twins are prone to develop anaemia. It has been taught ever since the turn of the century that this anaemia is due to the early depletion of the iron reserves of the body. At that time Bunge and Hugounenq showed that about two thirds of the iron reserve of the body was laid down in the last three months of pregnancy, chiefly in the liver. The possibility of insufficient reserve or early depletion in the premature is obvious. In addition, the rapid rate of growth in the premature or small twin results in a rapid exhaustion of the liver iron, relative to the growth rate of the rest of the body.

Not all authorities adhere to the theory of deficient iron storage. Gladstone has recently shown that instead of a sudden increase in the amount of iron laid down in the last intrauterine months there is a steady moderate deposition, greatly augmented by physiological hemolysis in the first week of extrauterine life. Still others, Baar in particular, feel that the anaemia of the premature is merely an exaggeration of the physiological anaemia mentioned above.

The treatment of this anaemia, both active and prophylactic, consists in the administration of inorganic iron. This will be dealt with later. Inasmuch as the symptoms are not manifested before the third month, and as iron may cause a digestive upset in the very young, it is probably not advisable to give iron prophylactically before the fourth week of life.

3. (*a*) *Simple Nutritional Anaemia.*

Dietary factors can be considered to cause an anaemia in either of two ways:

1. By lack of something in the diet needed for blood building.
2. By the presence in the food of something actually harmful to the bone marrow or the formed cells.

The most conspicuous example of a nutritional anaemia is that which results from the overlong use of a milk diet without proper additions. Milk contains less iron than any other substance commonly used in infant diets. It is arbitrarily assumed that the iron reserve of the liver is exhausted by the sixth or seventh month of life unless adequate replacement is made by suitable additions to the diet.

On the face of it, this would appear to indicate that such anaemias are caused by lack of iron in the diet, but certain other factors must be considered. Naturally vitamins have been suspected of relationship with nutritional anaemias, particularly B complex. It is true that in experimental rats with nutritional anaemia yeast has proved an effective therapeutic agent. However, yeast has not proved to be particularly valuable in the treatment of children.

Infection plays an important role. Many nutritional anaemias appear to be precipitated by infection, and a severe infection will interfere with the effectiveness of iron therapy. It has already been stated that where Mackay prevented the development of nutritional anaemia by the use of iron, Josephs produced the same results by the prevention of infection.

In some nutritional anaemias iron therapy may bring about a slow improvement, but the deficiency appears to be more complex than iron lack alone. Here the use of agents containing hemoglobin-building materials other than iron, such as liver extracts or transfusion, may be effective.

The possibility of a definite harmful substance in the diet producing an anaemia is still discussed by some European writers. The idea of a toxic substance in cows milk was introduced by the Czerny school. The theory is that the fatty acids of milk have a hemolytic action. This attitude has been generally abandoned on this continent, and milk anaemias now are considered to be deficiency anaemias, with frequently some predisposing or precipitating factor such as infection playing a part.

(*b*) Nutritional anaemia complicated by infection.

Where repeated mild or severe infections are associated with a nutritional anaemia a more complex state of affairs exists than in an uncomplicated nutritional anaemia. The one acts upon the other so that a vicious circle is set up. The anaemia is apt to be severe, and the blood picture changed by the element of infection. Treatment with iron alone is not likely to be effective. Splenic enlargement is common in such cases. It is not unusual for the exact nature of such an anaemia to go unrecognized.

Treatment of the Anaemias of Infancy

In simple nutritional anaemias and in the anaemia of prematures and twins, iron in large doses is usually effective. Iron has two effects; it stimulates hemopoiesis and supplies an essential part of the hemoglobin molecule. Iron has no effect unless hemopoiesis is stimulated. An example is seen in the first six weeks of life, where iron administration will not halt the rapid drop in hemoglobin. During infections, when the bone marrow is depressed, iron has no effect or a greatly diminished effect, depending upon the severity of the infection. In aplastic anaemias, iron is useless. Josephs sums up the status of iron very neatly:

"To say that a marked response to iron therapy is proof that the anaemia is due to a lack of iron is true in one sense, but if the same reasoning is applied to other diseases, one might say that malaria is due to a lack of quinine, or generally that any disease is due to a lack of the substance which cures it."

Iron should be given in inorganic form. Of the iron contained in foods, not all is available for utilization in anaemia. The maximum effect is obtained by flooding the body with a large excess of readily available iron, and food iron is either insufficient in amount or is not easily enough available to achieve this. One feels that this does not apply to the prophylactic use of iron containing foods in healthy infants.

The greater value of ferrous iron over ferric iron has not been demonstrated. The salt which we use, iron and ammonium citrate, is a ferric salt, and has been found effective in the hands of most observers. This may be given as a ten or twenty-five per cent. solution, placed in the feedings of the infant. For older children, the taste may be effectively covered with syrup of orange and chloroform water. The usual dose of the double citrate is ten grains, three times a day. We have done a little work using massive doses, up to one hundred grains a day. The results have been good, but probably not sufficiently spectacular to warrant the risk of gastro-intestinal upset which attends the routine use of such a dosage.

Most preparations of iron contain impurities in the form of manganese and copper, and it does not seem necessary to increase the amount of catalyst. Some of our cases have received copper

sulphate in addition to iron, but the results have not been markedly better than with the use of iron alone. Cooley states that he is losing his enthusiasm for copper as a catalytic agent, and now uses liver in conjunction with iron as a routine mixture. Kato reports that cobalt is a useful catalyst.

Liver or liver extract alone is not particularly useful in the anaemias of childhood as we do not have to deal with a picture that exactly resembles pernicious anaemia in the adult. In combination with iron it may be very useful, particularly in those more complex forms of deficiency anaemia where iron lack alone is not the only etiological factor.

Transfusion is frequently a life saving form of treatment. Apart altogether from the immediate effect of transfusion, which is to raise the level of hemoglobin and red cells in the blood stream of the recipient, there is often a direct or indirect action on the process which is causing the anaemia. Thus, it is useful in infections, where other forms of therapy are of little value. It may supply antibodies. It may improve the condition of the patient so that he can better withstand the infection. It may break the vicious circle in nutritional anaemia complicated by infection. It may save life by tiding the patient over a critical period.

The question of treatment may be summed up in a few lines. Inorganic iron is a suitable form of therapy in uncomplicated nutritional anaemia, and in the anaemia of twins and prematures. Where infection is present, transfusion is the most generally useful method of treatment. Where the deficiency causing the anaemia is more complex than iron lack alone, iron therapy may require to be supplemented by some other agent, such as liver extract.

The History of Urinary Calculus*

By

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The story of urinary tract calculus is as old as the science of medicine itself. Written contributions on the subject by such scholarly ancients as Hippocrates, Galen, Celsus and Alexander indicate that in those days a scientific understanding of the condition was possessed and that surgical procedures were in vogue. When light upon the subject first appeared, following the prehistoric period, it was found to emanate from several widely separated regions, namely, India, Mesopotamia, Egypt and Greece. Of the earliest period, we possess only a very fragmentary knowledge, based entirely on circumstantial evidence. After the lapse of hundreds or perhaps thousands of years there was inaugurated the practice of making records and this led to a more comprehensive scientific era.

The early Babylonians who inhabited Mesopotamia, the region between the Tigris and Euphrates rivers, possessed a civilization which at 4000 B.C. had attained a wonderful degree of development. The cultivation of the arts and the natural sciences, especially astronomy and mathematics, had reached a high degree of perfection, but the science of medicine received very little attention and consequently made only insignificant advances. Surgery in particular was very poorly developed because of the severe laws enacted to punish unsuccessful operators. The following extract exemplifies this:

> "If a physician makes a deep wound with an operating knife of bronze and the patient dies or if he opens a tumor with such a knife and the patient's eye is thereby destroyed, the operator shall be punished by having his hands cut off."

Although urinary calculus as an entity was recognized the operation was considered a very formidable one and the Babylonian surgeons were afraid to tackle it. Herodotus, who visited Mesopotamia in 300 B.C. made the statement "that there were no physicians in Babylon."

Information regarding the knowledge of medicine possessed by the Ancient Egyptians dates back to about 3000 B.C. The healing art was entirely in the hands of temple priests who formed an organized body with a sort of physician in chief at its head. Their knowledge of surgery reached a degree well in advance of that of any of their contemporaries. Their skill in manufacturing surgical instruments is amply revealed in the specimens, knives, hooks, forceps, metal sounds and probes, etc., which have been dug up at the various sites of ancient ruins.

The Egyptians were the first to practise extraction of stone through the natural passages. A description of such an operation by the Arabian physician Haly was handed down by Proper Albinus. A synopsis of this description follows:

> A pipe of ivory or wood of proper size was introduced into the bladder per urethra and air introduced; when the bladder was sufficiently distended the proximal opening of the tube was tightly corked. With one finger in the rectum the stone was forced into the vesical neck. This was followed by suprapubic pressure and the cork removed. Force of expelled air carried the stone into the posterior urethra and with further dilatation of the anterior urethra the stone was removed.

This of course only applied to small stones.

For larger stones the early Egyptians practised lithotomy but the mortality was very high. Ammonius of Alexandria performed many such operations and in recognition of his great skill became known as Ammonius Lithotomos.

The early Arabians sought the aid of chemistry to relieve man of this condition but soon realized its uncertainty and began to resort to manipulative

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and surgical procedures. The Arabian Albucaris described the operation of perineal lithotomy as follows:

> "Having cleared out the bowels with a clyster, the patient is to be shaken so as to make the stone descend and he is then to be secured in the arm of an assistant with his hands under his nates. The surgeon then presses upon the perineum and if the stone be felt the operation is proceeded with. Otherwise the index finger of the left hand if the patient be a child and the middle finger if an adult is introduced into the anus and the stone is thereby gradually brought down to the neck of the bladder. Having pushed it outward to the place where it is meant to make the incision, an assistant is directed to press downward upon the bladder from above the pubes while another draws up the testicles with one hand and with the other stretches the skin under them. Then with a scalpel the operator makes an incision between the anus and the testicles straight upon the stone which is to be pressed out by the finger. The incision is oblique, large externally but internally of the size of the stone. If the stone is large it is broken down with a forceps. If more than one stone is present the largest is dealt with first."

His description of the operation in women involved the assistance of a "dexterous midwife" to introduce her finger into the rectum or vagina and press the stone down to the left hip. The operator incises over it, then with the aid of a sound dilates the opening and extracts the stone.

The practice of lithotomy appears to have been reckoned a disreputable occupation amongst the Arabians. Avenzoar mentioned it as an operation which an honest, upright, respectable man would not witness, far less perform.

Haly Abbas ascribed the formation of stone to the "concurrence of a viscid humor with heat of the part." "Old men," he said, "were most subject to renal calculi for in them the watery part of the urine passes down the bladder whilst the sediment is detained in the kidneys and is converted to stone." "Children," he said, "are most liable to calculi in the bladder owing to their eating much grosse food and taking exercise after meals by which means the system is loaded with grosse impurities." With regard to treatment he enjoined restricted diet, abstinence from "grosse food" and the use of medicines of an "incisive and attenuant nature." The general treatment during a "fit of gravel" is well laid down by Alsaharavius which consisted in bleeding, cupping, tepid baths, emollient clysters, etc.

After Cyrus the Great put an end to Babylon as a power among the nations, the Persians became the leaders in all affairs not only in Asia Minor but the entire country from India to the shores of the Mediterranean. Their belief that the touching of a corpse produced a special contamination interfered most seriously with the study of anatomy and therefore prevented any real advances in medicine and surgery. Their chief contribution to medicine in general and stone in particular was made during the 5th century A.D. when European civilization was hastening to destruction. At that time they gave shelter to the classical culture and medical knowledge of the Greeks, then passed it on to the conquering Arabs.

For many centuries B.C. cutting for stone was performed in India; but the influence of this country on medicine in general was completely overshadowed by that of the Greeks who were flourishing during this period.

Modern medicine really derives its origin from the Greeks. The poems of Homer, The Iliad and The Odyssey, written about 800 B.C., furnish us with the earliest and almost the only written evidence of the state of medicine in Greece at the dawn of history. Aesculapius, who is supposed to have lived about 1500 B.C., is mentioned in The Iliad. Many centuries later, in the year 420 B.C., he was deified in the city of Athens.

The ancient Greeks were quite conversant with the problem of urinary calculus. They recognized stone in the kidney and stone in the bladder. For the former they prescribed lithontriptics or agents, which taken internally were supposed to cause solution of the calculus. For stone in the bladder they advised surgery.

Hippocrates, in his description of calculus stated that,

> "Stones are formed from phlegm which has been converted into sand. The formation of the stone is the product of a preternatural heat in the bladder with a thick and turbid state of the urine."

He recommended fomentations, purges and tepid baths. He intimated, however, that when a stone is fairly formed the only hope is operation. Because of its high mortality Hippocrates characterized the operation of lithotomy as cruel and murderous and made the statement that all bladder wounds were mortal. It would appear that in those days lithotomy was a separate branch of the profession since Hippocrates in his famous oath vowed,

> "I will cut no one whatever for stone but will give way to those who work at this practise."

The operation was held in such disrepute that as a result lithotomy remained in the hands of latro-surgeons for many years after his time.

Galen advocated the use of "lithontriptics of a cutting and detergent nature." He mentioned pepper, galbanium, aphronitrum, asarabacca, etc. He recognized the value of lithotomy.

Aretaeus recommended quick lime and honied water. When a stone obstructed he said either to push it back into the bladder or cut the vesical neck. He stated that navigation and living at sea were beneficial in all affections of the kidneys. This accords well with modern statistics of calculus disease.

During the last couple of centuries B.C. Rome had no lithotomist. Archagathus, the first to propose to cut for stone, had lived in Rome about

200 B.C. but he had been banished and from that time lithotomy was not performed in Rome until the time of Celsus. Celsus flourished about the beginning of the Christian era, and was the earliest author to describe lithotomy. It is thought that Celsus acquired this knowledge from the Greeks who in turn had obtained it from the Egyptians, for by this time the surgeons of Alexandria had acquired great proficiency at this procedure. He forbade the operation until every other method had failed. He also disallowed it in children between the ages of 9 and 14 and in the season of spring. Celsus insisted that the bladder must not be wounded for such wounds were always fatal. His description follows:

> "When the stone is brought to rest on the neck of the bladder a lunated incision must be made in the skin near the anus as far as the neck of the bladder with the horns pointing a little towards the ischia, then in the part where the bottom of the wound is straighter, again under the skin another transverse wound must be made by which the neck may be cut till the urinary passage be opened in such a manner that the wound is something larger than the stone."

Not infrequently the rectum was sliced and the surgeon's fingers were wounded. If the stone could not be pressed out with the fingers it was drawn out with a hook. Thus a knife and hook were the only essential instruments. Because of the absence of many instruments it was referred to as the "lesser apparatus operation." To obviate post-operative haemorrhage "the patient should sit down in sharp vinegar to which a little salt has been added, under the use of which, most commonly does not only the bleeding subside, but the bladder is constringed and therefore less inflamed." With minor alterations this operation flourished for 1600 years.

When Marianus Sanctus in 1535 improved this operation and used additional instruments it became known as the "greater apparatus operation."

The Greek, Paulus Aegenita, who lived about 600 A.D., in his book on Medicine, described renal colic as follows:

> "It is a common symptom of colic and of calculus in the kidney that the belly is at first constipated with violent pain, anorexia, and tormina, but it is peculiar of colic to have all these symptoms more intense whereas in nephritic they are less so; the passage of the feces is completely obstructed so that not even flatus can pass, or when with difficulty the feces are evacuated they are flatulent and resemble the dung of oxen or sometimes a vitreous phlegm is discharged and the urine is voided freely and is of a pituitous nature. There is a pain in the kidneys as if transfixed with a sharp pointed instrument and the corresponding testicle is pained and there is torpor in the thigh of the same side."

Referring to stones in the bladder he wrote:

> "The symptoms of these are unconcocted and whitish urine with a sandy sediment. The patients rub constantly and handle the member, stretch it, and make incessant attempts to pass water and are troubled with strangury."
>
> "Wherefore the material cause of the formation of stones is a thick and terrene humor but the efficient is a fiery heat of the kidneys or bladder."

For colic he recommended the use of lithontriptics composed of a most conglomerate combination of substances, also cataplasms, fomentations and hip baths. He referred confidently to goat's blood as a solvent and observed that solvents wrongly given increased the size of the stone.

He advised that "when stones are too large or become impacted at the bladder neck we must have recourse to concussion, catheterism or even lithotomy."

Of lithotomy he stated,

> "Children up to the age of 14 are the best subjects for operation on account of the softness of their bodies. Old men are difficult to cure because ulcers of their bodies do not readily heal. And the intermediate ages have an intermediate chance of recovery."

Paulus Aegenita's description of perineal lithotomy is similar to that of Celsus.

His method for the removal of urethral calculus follows:

> "If the stone be small and fall into the penis and cannot be voided with the urine, draw the prepuce strongly forward and bind it at the extremity of the glans. Apply a ligature round the penis, making constriction at the extremity next the bladder; make an incision upon the stone, bending the penis and ejecting the stone; undo the ligatures and clear away the coagula from the wound. The posterior ligature is applied lest the calculus should retreat and the anterior, in order that when untied and extraction of the stone, the skin of the prepuce may slide backwards and cover the incision."

Many years after Christianity was established the practice of medicine passed into the hands of monks. They would not permit any surgical operations which resulted in the loss of blood so all surgical procedures went under the maxim, "Ecclesia abhorret a sanguine." As a result of this attitude cystotomy fell into almost universal disuse. Stone solvents became the vogue. Avicenna in the 10th century advocated a very complicated mixture:

Calcined glass
Ashes of scorpions
Ashes of hare
Ashes of egg shells
Stones found in a sponge
Powdered goat's blood
Lapidis judaici
Parsley
Wild carrots
Marshmallow seeds
Gum Arabic

Make into an electurary with honey.

This is a typical example of the hundreds of preparations that were being prescribed at the time.

Some time later a group of practitioners known as the barber surgeons developed. These men were restricted in their activities to such operations as blood-letting, removal of corns and other harmless practices.

In the meantime the wretched sufferers from stone were condemned to everlasting misery, receiving lithontriptics, saxifrages and divine blessings until relieved by death.

It was not until the beginning of the 16th century that science received a new impetus when a group of lay professors known as University Doctors began to revive the practice of surgery.

In 1561, a French surgeon named Piérre Franco performed the first operation of suprapubic lithotomy in a boy of 10. He described his experience as follows:

> "The stone was as large as a hen's egg and resisted all my efforts to extract it by way of the perineum. The parents and friends were greatly demoralized by the suffering to which I was subjecting their child and maintained that they would rather have him die than be subjected to such awful suffering; being influenced by the thought that I could not have it charged against me that I was not able to extract the calculus I deliberately decided that I would make an opening above the pubic bone and deliver it in this manner. Accordingly I incised the skin above the pubes through the soft tissues down to the calculus which I had simultaneously pushed upwards by pressure against the perineum. My assistant created counter pressure against the stone by firmly compressing the abdominal wall above the object. The operation was a complete success."

Franco was appalled by what he had done because he had violated the then established Hippocratic belief that all bladder wounds were fatal. He felt that his success was due to sheer good fortune and he strongly recommended surgeons never to try this method. He himself never tried it again.

Twenty years later Rossetus demonstrated the practicability of the suprapubic operation by his experiments on the cadaver, but he never performed it on a living person.

Because of the Hippacratic dictum and Franco's pessimism no one attempted the high operation for the next 150 years. Early in the 18th century, an Englishman, John Douglas, distinguished surgeon of the Westminster Hospital, London, revived this procedure and established it on a firm footing.

Cheselden recorded in his book the manner in which this operation was established in Paris. It was known that a French archer of Mudon who was condemned to die for robbery was afflicted with stone. A group of Parisian surgeons, eager to experiment, obtained permission from the King and government to do a suprapubic lithotomy on this man. It was agreed that should he recover he would be pardoned and rewarded by the school for his sufferings. The criminal was successfully operated upon, was pardoned and received the reward.

For an unkown number of years preceding the 17th century it had been a well established custom for members of the medical profession in France and the neighboring countries, as the Hippocratic oath enjoined, to entrust all cases of stone to expert lithotomists. This gave rise to a group of itinerant lithotomists, medical people and otherwise, who made it their business to travel from town to town and operate for stone. They guarded their secret carefully and very few people became acknowledged as experts.

One such person, a monk, named Frére Jaques, learned the art from an Italian physician named Paulony. Jaques is credited with having invented the operation of lateral lithotomy. His method consisted in introducing a long-rounded staff into the urethra, then thrusting a knife into the ischiorectal fossa 3 fingers breadth to one side of the mid line; the base of the bladder was thus penetrated. His success by this method was mainly in large stones.

Jaques' reception by the medical profession in Paris was of the coolest description. One critic, commenting upon his air of sanctity and claim to be a monk, "fails to understand how, if he be a monk, his superiors can allow him to roam the Kingdom and cut persons of both sexes for stone; which he cannot do without viewing the objects which must put that chastity of which he has made a vow, to a very severe test."

In 1697 when Frére Jaques visited Paris he had already attained wide celebrity as a lithotomist. But the surgeons of that city were not at all pleased that an itinerant lithotomist from the provinces should have the opportunity to request permission from the authorities to exhibit his method before the medical faculty of Paris. His request, however, was granted and he performed the operation upon a man of 40 at Hotel Dieu, in the presence of a large assembly of physicians. The patient made a good recovery.

At Fontainbleu he operated upon a shoemaker's boy, aged 14. The patient was cured in three weeks and Jaques' success was assured. The magistrates then appointed John Mery, an accomplished surgeon and anatomist, to examine Jaques and to decide upon his ability to do this type of surgery. Mery watched Jaques operate upon a cadaver and afterwards dissected the body. He found that the incision had been made into the bladder through the prostate gland. Mery was highly impressed and gave a favorable report to the magistrates. Jaques was then permitted to operate at Hotel Dieu.

Of his first twelve cases three died and nine made a good recovery. He then performed sixty cases in public. So great was the crowd that soldiers had to be employed to keep back the press of people. Dr. Lister of London who saw him perform stated that Jaques could do ten cases in less than an hour. Lister also remarked, "He

put me in some disorder at the cruelty of the operation, however I visited all the patients in their beds and found them more amazed than in pain."

Boerhaave, in his book, recorded that in 1703, a French nobleman, afflicted with stone, before he would submit to be operated upon by Frére Jaques received into his palace twenty-two persons afflicted with the same disorder. Jaques operated upon them and they all recovered. After so many favorable experiments, the nobleman considered it a safe procedure, so he submitted to operation and promptly died. Jaques' luck in Paris was not maintained. It would appear that his failures were mainly amongst the socially prominent and his successes amongst the poor.

He was next heard of in Holland, where he worked with Rau. Rau learned all that Jaques had to impart, then proceeded to improve the operation. Rau failed to credit Jaques with what he had done. The magistrates of Amsterdam presented Jaques with his portrait and a set of gold sounds which he subsequently melted down and sold, giving the proceeds to the poor. Jaques died at the age of 69 and is said to have operated upon six thousand patients for stone.

In connection with the operation of lithotomy, the diary of the famous Samuel Pepys gives an idea of the relief obtained from a successful operation. The following is an extract:

"March 26, 1660

This day it is two years since it pleased God that I was cut for the stone at Mrs. Turner's in Salisbury court and did resolve while I live to keep it a festival as I did last year at my house and forever to have Mrs. Turner and her company with me. But now it pleased God that I am prevented to do it openly. Only within my soul I can and do rejoice and bless God, being at this time, blessed be his holy name, in good health as ever I was in my life.

March 26, 1661

This is my great day and three years ago I was cut of the stone and blessed be God, I do find myself very free from pain again.

March 26, 1662

Up early, this being by God's great blessing the 4th solemn day of my cutting for this stone, this day 4 years and am by God's mercy in good health and like to do well, the Lord's name be praised for it.

March 26, 1665

This is the day 7 years which by the blessing of God I have survived my being cut of the stone and now in very perfect health and have long been. And though the last winter as severe as many have been these many years, yet I never was better in my life . . . now I am at a loss to know whether it be my hare's foot which is my preservative, for I never had a fit of colic since I wore it, or whether it be taking of a pill of turpentine every morning."

It would appear that very little attention was paid to stone in the kidneys or ureter, until in 1633, Dominico Marchetti, a bold and versatile surgeon from Padua, Italy, successfully operated for renal calculus.

Under the heading of Prognostics, Ambroise Paré gave an interesting account of what happens when one or both ureters are blocked—

"When the stone is cast forth of the kidney and is driven into one of the ureters that it wholly stop it, yet thereupon there followeth no suppression of the urine for seeing that nature hath made divers parts of an body double, all the urine floweth into the other ureter; but if they should be both stopped with stones, there is no doubt but the urine will be wholly suppressed and death ensues by the suffocation and extinction of the native heat by the urine flowing back by the rivelets of the veins over all the whole body."

As late as 1796 Benjamin Bell of Edinburgh gave a very gloomy prognosis for operation on the kidney—

"Upon the whole we may conclude, that when not directed by the appearance of a tumor to the part that ought to be opened, the uncertainty of the ground upon which we proceed when we undertake this operation, the difficulty of performing it and the very imminent danger that attends it will more than counterbalance any advantage that can ever probably be derived from it. So that the operation of nephrotomy will never probably be received into general practice."

For a time during the 18th century there seemed to be a reversion to non-surgical methods in the form of dissolvements. A certain Mrs. Joanna Stephens claimed absolute and positive cures for her secret method which was advertised as painless and harmless. The lady acquired such a reputation that in 1739 the English parliament purchased her secret for £5,000 and the French government decorated her with a medal of honor and awarded her the sum of 60,000 francs. The document obtained follows—

"My medicines are a powder, a decoction and pills.

"The powder consists of egg shells and snails, both calcined.

"The decoction consists of boiling some herbs together with a ball which consists of soap, swine's cresses burned to blackness, and honey in water.

"The pills consist of snails calcined, wild carrot seeds, burdock seeds, ashen keyes, hips and hawes, all burned to blackness, also soap and honey.

"Give one dram of the powder mixed in cyder, followed by a half pint of the decoction three times daily. If the decoction disagrees with the stomach the pills should be substituted."

Enthusiasm over this method of treatment became so great that for a time lithotomy was barred. Whenever mucus was found in the urine it was interpreted as dissolved stone. Soon it was discovered that the sure cure was nothing but a chimera. Four persons who had been certified as cures by trustees appointed by the government died, and autopsy in each case revealed stone in the bladder. A post mortem follow up on every other supposedly successful case revealed stone.

Soap and lime water appears to have been a favorite dissolvement. Instillation of solution into the bladder was also practised.

Next we come upon the era of litholopaxy or blind crushing of stones in the bladder. In 1626 Sanctorius devised a crude instrument for crushing of stones without opening the bladder but it was not until the time of Civale in the early part of the 19th century that the procedure could be performed with a reasonable degree of safety. His instrument consisted of two metal tubes, the inner one having three curved projections by which the stone was grasped and held while a sharp iron rod was used to bore a hole in it. Weiss invented a curved screw lithotrite in 1824 and Heurteloup designed a curved percussion lithotrite in 1833. It was not until Bigelow in 1878 perfected the lithotrite that the modern operation of blind litholopaxy became standardized. In recent years the introduction of the cystoscopic visualizing lithotrite has replaced the blind method in the case of smaller vesical calculi.

And now we come to the late modern era, that is, the 19th and 20th centuries. The innovation of ingenious instruments for stone extraction has completely revolutionized surgical treatment for stone. Recent work on calculogenesis and urinary infections has made certain prophylactic measures possible despite our ignorance as to the cause of stone formation. Statistics indicate a marked shift in the age of distribution of bladder stone. At present only 11% of patients with bladder stone are under 30 years of age, a century ago 83% were included in this group. The striking change is apparently due to dietetic improvement and a more thorough understanding of vitamin requirements.

With all our advances we are still groping in darkness. There are almost as many theories of stone formation as there are authorities. In this hyper-prophylactic age we are still at a loss to know how to prevent its formation or recurrence after it has been removed. Those who are critical of the crude methods of our ancestors ought to bear in mind that our own knowledge is still very inadequate. The ultimate solution of this complicated problem shall be a distinct advance to medical science.

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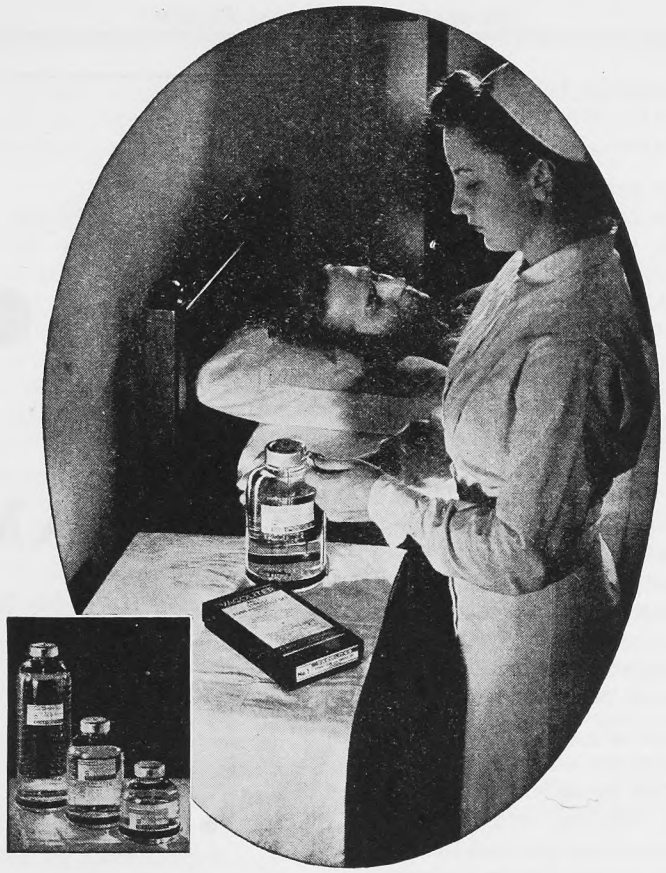

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Special Articles and Association Notes

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The Annual Meeting

ON another page will be found the Programme for the Annual Meeting of the Association. This year the meeting will be at the beginning of the week — Monday, Tuesday and Wednesday, September 11th, 12th and 13th.

There are not so many papers on the programme as in some former years, but the subjects dealt with are of fundamental importance and more time has been allowed for discussion. The general outline of the programme is arranged in order that there will be an opportunity for relaxation and entertainment.

We are fortunate this year in having several eminent visitors, and a perusal of the programme will show that the subjects they have chosen for discussion are of practical importance to the general practitioner. We are indebted to the Canadian Medical Asociation for sending us six clinicians. Through the co-operation of the British Columbia Medical Association it has also been aranged to exchange a speaker with Vancouver. Our association is very grateful to the visitors for the contribution which they are to make to our programme.

Each morning is devoted to scientific and clinical subjects. On Monday and Wednesday mornings papers will be presented at the Royal Alexandra Hotel. On Tuesday morning there will be a demonstration of clinical cases in the large theatre at the Medical College. Cases will be described by members of the staffs of local hospitals and discussed by the visiting clinicians. The cases will not be limited to one department of medicine, but will be as representative as possible of all fields of practice, and an effort has been made to choose types that illustrate methods of diagnosis and treatment of assistance in every day practice.

As there is to be a special meeting on Economics Monday evening, it was decided that the afternoon should be left free for entertainment. The Garden Party will be held at the Motor Country Club, Lower Fort Garry, and both the doctors and their wives are expected to attend. Lower Fort Garry is one of the most picturesque sites near Winnipeg, and the Garden Party should provide a unique opportunity for meeting friends and exchanging news and views on medical and other topics. His Honour, The Lieutenant-Governor, and Mrs. Tupper have graciously consented to attend the Garden Party. The provision of a Garden Party is a new venture in connection with the Annual Meeting, and it is hoped that it will be enjoyed by all the members and their wives.

On Tuesday afternoon the Presidential Address will be given immediately following luncheon, and the remainder of the time will be used for the Annual General Meeting.

Wednesday afternoon will be devoted to golf. Through the courtesy of the Board of Directors, the Committee have arranged that the Annual Golf Tournament will be at Pine Ridge Golf Club. This is one of the best courses in Manitoba, and all golfers should look forward with pleasure to this tournament.

Monday evening will be given over to a special meeting on Medical Economics. This is a subject which is becoming of more importance to the profession every day. There has been much discussion of various aspects of medical economics by the laiety. Although in many cases this has been of the nature of special pleading rather than a dispassionate analysis of the problems involved, yet it makes it all the more necessary that the profession should be well informed on this subject. This year we will have with us Mr. Hugh H. Wolfenden, F.I.A., F.A.S., F.S.S., the Consulting Actuary and Statistician. Mr. Wolfenden has been retained as consulting actuary by the Canadian Medical Association, and arrangements have been made for him to attend the meetings in the four western provinces. The meeting will open with brief discussions of special phases of medical economics by Doctor E. S. Moorhead, Doctor F. W. Jackson and Doctor J. A. Hannah. Mr. Wolfenden will then deal with the subject in a broad sense, and later the meeting will be thrown open for general discussion. As this meeting is a new feature of the Annual Meeting of the Association, it is hoped that members will

avail themselves of the opportunity to learn something about questions relating to the economic aspects of medical practice.

The Annual Dinner and Dance on Tuesday evening will have all the usual features, and in addition the Committee are arranging special entertainment. The Committee have arranged the details with great care and hope that it will be a specially enjoyable feature this year.

The Committee on Scientific Exhibits have arranged an interesting series of exhibits, including pathological, radiological, microscopic and other features. Those submitting the exhibits have been asked to be in attendance to explain them to the members. Intermissions have been arranged in order that the members may have time to devote to examination of the scientific and commercial exhibits.

The Ladies' Committee have been working very hard in arranging for the entertainment of the doctors' wives. The usual afternoon tea will be replaced this year by the Garden Party at Lower Fort Garry. On Monday evening there will be bridge for the wives of visiting doctors at the residence of Mrs. S. G. Herbert. Those wishing to play golf may arrange to do so on Wednesday morning. Mrs. W. S. Peters will give a luncheon to the wives of the members of the retiring executive on Tuesday at the Manitoba Club, and of course there is the Dinner and Dance on Tuesday evening.

Altogether the plans that have been made indicate that our Annual Meeting this year should be not only a valuable means of widening our medical knowledge, but also provide a welcome opportunity for a brief holiday from the cares of practice.

Montreal Meeting of the Canadian Medical Association

The Montreal meeting of the Canadian Medical Association during the week of the 19th was one of the most successful in the history of the association. Everyone was very much impressed with the great deal of care taken by the local committee in preparation for the meeting. There were over two hundred contributions to the programme, and there were one thousand and eighty-five practitioners registered at the meeting.

The General Council met the first few days under the chairmanship of Doctor T. H. Leggett of Ottawa.

Council adopted the consolidated constitution and by-laws after the report had been presented by Doctor R. I. Harris of Toronto.

The chairman of the Committee on Economics, Doctor Wallace Wilson, of Vancouver, presented a comprehensive report. The Association engaged Mr. Hugh H. Wolfenden, Consulting Actuary, to assist the Committee on Economics in its work for the coming year.

Ten senior members were elected, including Doctor W. Harvey Smith, of Winnipeg.

The Association accepted the proposal from the Canadian Broadcasting Corporation to provide thirty-two broadcasts during the coming year, each of fifteen minutes' duration.

The time and place of the annual meeting have been fixed for the next two years—

1940 in Toronto, during the week of June 17th.

1941 in Winnipeg, during the week of June 22nd.

In 1942 the meeting will be held in Alberta, location and date to be decided later.

Immigration, particularly referring to the admission of refugee doctors, provoked considerable discussion. It was the feeling of General Council that, while the Association is very sympathetic with our medical colleagues in some other lands for the plight in which they find themselves, Council is of the opinion that the medical schools of Canada are graduating more than a sufficient number of doctors for Canadian needs, and therefore, Council could not support or justify the importation or admission of refugee doctors into Canada for the specific purpose of practising medicine.

Excellent reports were presented by the various standing and special committees, including the Hospital Service Department, the Committee on Schools for Laboratory Technicians in Canada, the Maternal Welfare Committee, the Committee on Medical Education, the Committee on Public Health, the Committee on Nutrition and the Committee on Legislation. The reports touched upon a great many points of interest which will be detailed in the September *Journal*.

Among the distinguished visitors to the meeting were Sir Arthur MacNalty, Chief Medical Officer, Ministry of Health for Great Britain, London, England; Professor Edward Provan Cathcart, Professor of Physiology, University of Glasgow; Dr. Thomas S. Cullen of Baltimore, fraternal delegate of the American Medical Association; Dr. Allen O. Whipple of Columbia University, New York, who gave the Lister lecture.

On the entertainment side the men, women and young people were exceedingly well cared for. The members of Council were dinner guests of the Quebec Division, the Montreal Medico-Chirurgical Society and La Societe Medicale de Montreal on Tuesday night. On Wednesday night the Association had the unique experience of a delightful entertainment at the Chalet on the top of Montreal Mountain, motor transportation being permitted, which in itself was a great privilege, as rarely have motor cars been allowed on the mountain top. Fortunately, the night was clear, making the view of the city, lying well below, most attractive. More than 1,000 people were received by the President and Mrs. Patch.

Again on Thursday night the members and their ladies enjoyed a splendid dance and floor show on the Normandie roof of the Mount Royal Hotel.

Too much praise cannot be given the committees for the magnificent organization which they had set up, which functioned so smoothly in providing delightful entertainment for their guests.

OBITUARY

Dr. Charles Warwick McVicar, aged 39, died in Winnipeg on August 11. Born in Cornwall, Ont., he came to Western Canada with his parents when he was a boy, was educated at Winnipeg and Regina and graduated from the Manitoba Medical College in 1923. He practiced at Vanguard, Sask., for several years; took post graduate work in London, and spent two years on the staff of the Radium Institute in Manchester. Later he was appointed radio-therapist to the Otago General Hospital in Dunedin, New Zealand. He had returned to Winnipeg in July of this year to start practice in radio-therapy.

The American Congress on Obstetrics and Gynaecology will meet at Cleveland, Ohio, September 11-15, 1939. Applications for membership should be sent to 650 Rush street, Chicago, Ill., U.S.A.

NOTICE

The Board of Trustees of The Winnipeg General Hospital invites applications for appointment to the position of Assistant Ophthalmologist.

These should be in by October 1st, 1939.

G. F. STEPHENS, M.D.,
Superintendent.

The University of Wisconsin Medical School has arranged a programme of scientific papers for the Institute for the consideration of the blood and blood-forming organs September 4th, 5th and 6th. The programme is an excellent one with many distinguished contributors and should be of value to all medical men interested in Haematology.

The thirty-ninth Annual Meeting of the Canadian Tuberculosis Association will be held at the Royal Alexandra Hotel, Winnipeg, September 7th, 8th and 9th preceding the meeting of the Manitoba Medical Association. A large number of very interesting papers will be presented and a large attendance is expected.

OFFICE SPACE TO LET.—Good location for medical man in Elmwood to share office space with well-established dentist.—Apply Box 200, "The Manitoba Medical Review," 102 Medical Arts Bldg., Winnipeg.

Department of Health and Public Welfare

NEWS ITEMS

THE PREVENTION OF SKIN DISEASES IN CHILDREN: The following article by George Clinton Andrews, Associate Professor of Dermatology, College of Physicians and Surgeons, Columbia University, New York, was recently published in the publication "Preventive Medicine" and we are quoting it herewith, trusting our readers will find it as interesting as we have:

"Many skin diseases in children are brought about by predisposing or contributory causes. It is important, therefore, that these should be recognized and combatted in an effort to prevent such diseases from developing. Lowered resistance of the body tissues, debilitation and malnutrition, as well as disorders of special organs, often have a direct bearing on cutaneous disturbances. Pruritus urticaria and eczema may be connected with disorders of the nervous system. The course of many dermatoses, including some of bacterial origin, is influenced by anemia and constipation.

"Some diseases are more prevalent in certain countries and climates and should be specially guarded against. While climate influences the incidence of skin diseases in our own country, the mode of living, the kind of food, and the habits of personal cleanliness in the family are the more important factors. In certain seasons attention should be given to the prevention of certain dermatoses. For instance, chilblains, eczema and psoriasis are aggravated during the winter, whereas prickly heat and hydroa vacciniforme are encountered in the summer.

"Heredity undoubtedly plays an important role as a predisposing cause. The distinction between hereditary and familial disease is not always sharply drawn. A predisposition to a disease or an hereditary weakness may be transmitted rather than the disease itself. On the other hand, syphilis may be directly transmitted. A knowledge of these potentialities may help to prevent infection with these diseases in children. Albinism and ichthyosis are considered hereditary diseases. Xeroderma pigmentosum, psoriasis and leukoderma sometimes affect several members of one family.

"Although the recognition and the avoidance of these factors may help to prevent the development of some of the skin diseases which have been mentioned, there are certain external causes of more practical importance. Household pets, especially cats and dogs, are the source of many dermatoses, the most common being ringworm and impetigo. Personal hygiene plays an important role. The excessive use of soap and water as well as their too frequent use may directly lead to pruritus and eczema, or indirectly prove an aggravating factor. Lack of bathing, on the other hand, predisposes to the development of certain parasitic diseases including ringworm, scabies, and pediculosis. Impetigo and furunculosis frequently occur where the integument is saturated with sweat and dirty from the accumulation of sebaceous material which forms a favorable soil for the growth of microorganisms.

"The amount of bathing must be individually regulated according to the character of the child's skin. Most children tolerate one or more baths a day during the summer months, but few can tolerate more than one bath a day during the winter months. There is a general tendency to overbathe children's bodies. Admitting the need for frequent cleansing of exposed parts such as the hands, knees and face, it is, nevertheless, not necessary to scrub the trunk vigorously and often enough to cause the skin of the chest and back to become dry and itchy. There is also an inclination to neglect drying the toes. This probably accounts for the development of most cases of dermatophytosis of the feet and hands. The fungi, which are the pathological agents, find an environment of warmth and moisture favorable for their growth on the toewebs and there form substances that are disseminated through the blood stream and cause the eruptions on the hands. Such diseases are essentially tropical but when they find an environment between the toes that approaches tropical conditions their growth there will naturally follow. Dryness between the toes can usually be maintained by the use of a dusting powder containing 1% thymol iodide which is applied after the careful use of a hand towel.

"Most of the good bath soaps on the market are mild and satisfactory. They are, however, drying, and should be thoroughly rinsed off. It is good practice to use as little soap as is necessary to make good suds which makes it possible to remove all the alkali thoroughly by careful rinsing.

"Care of the finger and toe nails deserves consideration. It is natural for children to play in the dirt and to be dirty, but it is inexcusable for parents to let them go to bed with dirty finger nails or dirty toe nails. The habit of biting the nails or picking the cuticle may lead to various paronychial infections and nail deformities. Apparently insignificant abrasions, scratches, and punctures if neglected may be the starting points of impetigo, ecthyma and pyogenic granuloma. Impetigo, boils and other dermatoses may also result from picking mosquito bites or other trivial skin lesions, particularly when the finger nails are dirty.

"Staphylococci present on normal skin may, by gaining access to deeper tissues, give rise to various other pyogenic diseases such as furunculosis, pyogenic granuloma and erysipelas. Since a single furuncle may be the forerunner of multiple abscesses, an attempt should be made to abort the furuncle in its early stage. This is best accomplished by the application of a protective dressing of an ointment consisting of phenol 4% in lead oleate plaster, and by the immediate institution of vaccine therapy.

"Where possible the child with pustular infections, especially impetigo, should be isolated from playmates. The prevention of spread of impetigo in institutions, especially maternity wards, deserves special emphasis. Infants with impetigo should receive a vigorous and complete inunction of the entire surface of the body with a 3% ammoniated mercury ointment. The treatment should be given daily, for three successive days. These infants should not be bathed with water again during their stay in the hospital. When diapers are changed no water is used, the genitalia and buttocks being carefully cleansed with absorbent cotton moistened with sterile cottonseed oil. To prevent the spread of impetigo in the nursery all contacts, that is, all other children in the nursery should be given a complete inunction with 3% ammoniated mercury ointment for three successive days. Also, on admission to the nursery every baby subsequently born is first to be given a cleansing bath with soap and water, then a single vigorous inunction with 5% ammoniated mercury ointment. On the following day the child is to be rubbed with sterile cottonseed oil.

"Care of the child's scalp is often neglected. On the whole, there is a tendency to wash the scalp too often and not to use enough oil upon it. The scalp should be washed about once a week during the hot summer months and once every two or three weeks during the winter time, olive oil to be applied to the scalp and thoroughly massaged into it at least once a week throughout the year. During the summer months if there is much swimming and exposure to the hot sun, the applications of oil should be made oftener so as to prevent excessive dryness that is often caused by these factors.

"Due to its exposed position and its protective function, the skin is liable to trauma. The degree of injury to the skin by physical agents varies widely. Scalds and burns are perhaps the worst types of injuries. They are sometimes fatal and in many instances lead to serious lasting deformity. They can come from many indiscretions and circumstances, but in general scalds result from hot soup, tea or coffee and severe burns from playing with matches or from playing with alcohol or gasoline. Tea pots, coffee pots and hot soup should not be placed within the reach of a child. It should be made a practice always to put such hot fluids far away from children. Matches should always be kept out of reach and sight of children. Sometimes children are too young to understand what is told them about the dangers of playing with matches. In such instances if they persist in playing with them it may be necessary to purposely light a match and burn them a little to show them how hot and dangerous it is. I have known one patient whose child was burned to death by playing with matches who thought it necessary to teach his other children in this manner.

"Trauma may be due to bites of insects, such as midges, flies, mosquitoes, stings of wasps and jelly fish. It is sometimes difficult to avoid such trauma. Children should be protected, particularly while sleeping. Bites by cats, dogs and even rats are important sources of disease. Many cases of rat bite fever, which is a spirillosis, have been encountered in children even in this country. Furuncular lesions due to botflies (myiasis) are not uncommon in the southern states and can be prevented by the use of netting over sleeping children. Infestation with hook worm larvae is often due to walking in bare feet on wet sand or damp ground.

"Dermatitis venenata is common in children. It may arise from exposure to poison ivy, poison sumach or other plants. It may also come from playing with lacquered articles or those made from teakwood or other irritative woods. Paints which are on playthings may cause dermatoses. Insecticides sprayed about to keep away mosquitoes, or flea powder or ant powder may cause similar eruptions. Rubber goods, plastics, and many other articles with which children come in contact may cause skin eruptions. The prevention of these may be accompished by a knowledge of the causative role which they may play. If there is known exposure to poison ivy or other external irritants, the exposed areas should be thoroughlv washed with tincture of green soap. In the case of poisonous plants it is advisable in addition to cleanse the areas with gasoline followed by alcohol. These agents will suffice to dissolve and wash away the irritating substances but are of themselves somewhat harsh. Therefore, this cleansing should be followed by the application of a soothing remedy such as calamine and zinc lotion."

COMMUNICABLE DISEASES REPORTED

Urban and Rural - June 18th to August 12, 1939.

Measles: Total 314—St. Boniface 145, Winnipeg 97, Shellmouth 10, Swan River Rural 9, Minitonas 7, Montcalm 9, Eriksdale 5, Swan River Town 5, unorganized 5, Grey 2, Hamiota Rural 2, Arthur 1, Brandon 1, Gilbert Plains Rural 1, Hanover 1, Kildonan W. 1, Oakland 1, Portage Rural 1, Rhineland 1, Riverside 1, Woodlands 1 (Late reported: Roland 7, St. Boniface 1).

Tuberculosis: Total 135—Winnipeg 25, Unorganized 14, Portage City 6, Brandon 5, Portage Rural 5, St. Boniface 5, Rockwood 4, St. Laurent 4, Siglunes 4, St. Clements 4, Lakeview 3, Lorne 3, St. Vital 3, Stanley 3, Armstrong 2, Bifrost 2, Brokenhead 2, Cartier 2, Dauphin Rural 2, Eriksdale 2, Fort Garry 2, Lac du Bonnet 2, Neepawa 2, Selkirk 2, Souris 2, Stonewall 2, Brooklands 1, Caldwell 1, De Salaberry 1, Emerson 1, Flin Flon 1, Franklin 1, Genella 1, Hanover 1, Hillsburg 1, Kildonan East 1, Morris Rural 1, Ochre River 1, Rhineland 1, Rossburn Rural 1, St. Andrew 1, St. James 1, Swan River Town 1, Strathcona 1, The Pas 1, Transcona 1, Turtle Mountain 1, Wawanesa 1, Woodlands 1.

Chicken Pox: Total 168—Winnipeg 47, Flin Flon 33, Unorganized 20, Rosser 8, St. Boniface 8, Pipestone 5, Kildonan East 3, Lorne 3, Minto 3, Brooklands 2, Gimli Village 2, Daly 1, Dauphin Rural 1, Labroquerie 1, Norfolk North 1, Portage Rural 1, Turtle Mountain 1, Victoria Beach 1 (Late reported: Flin Flon 23, Dauphin Town 1, Gilbert Plains Rural 1, Gilbert Plains Village 1, Victoria Beach 1).

Whooping Cough: Total 144—Winnipeg 65, St. Vital 11, Morris Rural 6, The Pas 6, Unorganized 6, St. James 5, Portage Rural 4, Montcalm 2, La Broquerie 1, St. Laurent 1, Transcona 1, (Late reported: Unorganized 23, St. Vital 9, St. James 4).

Scarlet Fever: Total 81—Winnipeg 23, Transcona 10, Brandon 5, Unorganized 5, Binscarth 3, Roblin Rural 3, Kildonan East 3, St. Boniface 2, Sifton 2, Springfield 2, Turtle Mountain 2, Brokenhead 1, Desalaberry 1, Oakland 1, Killarney 1, Morden 1, Pembina 1, Portage Rural 1, Rockwood 1, Rosser 1, St. James 1, Tuxedo 1, Virden 1, (Late reported: Springfield 3, Charleswood 2, Transcona 2, Lorne 1, St. Vital 1).

Mumps: Total 76—Winnipeg 46, Kildonan West 9, St. Francois 8, Unorganized 5, Kildonan East 2, Minitonas 1, St. Vital 2, Rockwood 1, Strathclair 1, Cornwallis 1.

Diphtheria: Total 44—Winnipeg 20, Bilfrost 8, Rhineland 7, Unorganized 3, Brooklands 1, Kildonan North 1, Kildonan W. 1, St. Clements 1, Stanley 1, (Late reported: Hanover 1).

Influenza: Total 25—Grandview Town 1, Shoal Lake Village 1, (Late reported: Brandon 2, Grandview Rural 2, Albert 1, Brokenhead 1, Cartier 1, Dauphin Rural 1, Dauphin Town 1, Ellice 1, Ethelbert 1, Harrison 1, Lac du Bonnet 1, Lorne 1, Louise 1, Odanah 1, Piney 1, Riverside 1, Russell Rural 1, Shellmouth 1, Shoal Lake Rural 1, Tache 1, Unorganized 1).

Lobar Pneumonia: Total 14—Brandon 1 (Late reported: Unorganized 3, Brandon 2, Brokenhead 1, Charleswood 1, Cypress South 1, DeSalaberry 1, Morden Town 1, Portage Rural 1, Selkirk 1, Winchester 1).

Typhoid Fever: Total 10—Portage City 1, Portage Rural 1, Rhineland 1, Unorganized 1, Winnipeg 1, (Late reported: Selkirk 3, Dauphin Town 1, Portage Rural 1).

Erysipelas: Total 9—Winnipeg 5, Minitonas 1, St. Boniface 1, Transcona 1, Unorganized 1.

Anterior Poliomyelitis: Total 5—Dufferin 1, DeSalaberry 1, Gimli Rural 1, Winnipeg 1 (Late reported: Unorganized 1).

Diphtheria Carriers: Total 3—Winnipeg 3.

Trachoma: Total 3—Pilot Mound Village 1, Swan River Rural 1, Unorganized 1.

Tetanus: Total 2—Morris Rural 1 (Late reported: Morris Rural 1).

Lethargic Encephalitis: Total 2—Unorganized 1 (Late reported: Blanchard 1).

Pueperal Fever: Total 1—Winnipeg 1.

Smallpox: Total 2—Brenda 1, Minnedosa 1.

Septic Sore Throat: Total 1—Portage Rural 1.

German Measles: Total 2—Hanover 1, Unorganized 1.

Streptococcal Cellulitis: Total 1—(Late reported: Springfield 1).

Undulent Fever: Total 1—Winnipeg 1.

Venereal Disease: Total 124—Gonorrhoea 63, Syphilis 61 (month of July).

DEATHS FROM ALL CAUSES IN MANTOBA
for the Month of June 1939.

URBAN—Cancer 49, Tuberculosis 11, Pneumonia (all forms) 4, Syphilis 4, Lobar Pneumonia 3, Septic Throat 2, Tetanus 2, Measles 1, Typhoid Fever 1, Cerebrospinal Meningitis 1, all others under one year 11, all other causes 149, Stillbirths 15. Total 253.

RURAL—Cancer 42, Tuberculosis 27, Pneumonia (all forms) 6, Lobar Pneumonia 6, Influenza 5, Lethargic Encephalitis 1, Puerperal Septicaemia 1, Septic Throat 1, Typhoid Fever 1, Whooping Cough 1, all others under one year 33, all other causes 158, Stillbirths 21. Total 303.

INDIAN—Tuberculosis 5, Pneumonia (all forms) 4, Cancer 1, all others under one year 6, all other causes 9, Stillbirths 1. Total 26.

Medical Library University of Manitoba

Post-Graduate Medical Journal — May, 1939

The Investigation of a Suspected Case of Brain Tumour. By C. M. Hinds Howell, M.D., F.R.C.P., Consulting Physician, St. Bartholomew's Hospital; Physician, National Hospital, Queen's Square.

The Pathology of Intracranial Tumours. By Dorothy S. Russell, M.D. (Lond.), Member of Scientific Staff, Medical Research Council.
From the Bernhard Baron Institute of Pathology, the London Hospital.

Tumours of the Temporal Lobe of the Brain and their Treatment. By Cecil P. G. Wakeley, D.Sc., F.R.C.S., F.R.S.E., F.A.C.S., F.R.A.C.S. (Hon.), Fellow of King's College, London. Senior Surgeon King's College Hospital and the West End Hospital for Nervous Diseases. Consulting Surgeon to the Maudsley Hospital and to the Royal Navy. Hunterian Professor Royal College of Surgeons of England.

Tumours of the Frontal Lobe. By Geoffrey Jefferson, M.S., F.R.C.S. (Hon. Neurological Surgeon, Manchester Royal Infirmary; Hon. Surgeon, National Hospital, Queen Square, London).

Tumours of the Parietal and Occipital Lobes. By A. Dickson Wright, M.S., F.R.C.S., Assistant Surgeon, St. Mary's Hospital; Surgeon, Maida Vale Hospital.

Meningeal Tumours. By Harvey Jackson, F.R.C.S., Hon. Assistant Surgeon, National Hospital for Diseases of the Nervous System, Queen Square, W.1, and the West London Hospital; Consulting Neurological Surgeon, Queen Mary's Hospital, Roehampton.

Subtentorial Tumours. By Geoffrey Knight, F.R.C.S., Assistant Surgeon, West End Hospital for Nervous Diseases. Associate Neurological Surgeon, The Metropolitan Hospital, London. Consulting Neurological Surgeon, Southend General Hospital.

Hypothalamic and Pituitary Tumours. By Samuel Nevin, M.D., M.R.C.P., Assistant Neurologist, King's College Hospital, Assistant Physician, Hospital for Nervous Diseases, Maida Vale.

The Clinical Journal — April, 1939

The Less Common Abdominal Emergencies. By A. Rendle Short, Professor of Surgery in the University of Bristol.

Diverticulitis of the Colon. By R. J. McNeill Love, M.S., F.R.C.S., Surgeon, Royal Northern Hospital.

Causation and Treatment of Brachial Neuritis. By J. Barnes Burt, M.D., Physician, Royal Mineral Water Hospital, Bath.

Indications for the Use of Zinc Protamine Insulin. By R. E. Tunbridge, M.D., M.Sc., M.R.C.P., Honorary Physician to the Leeds Public Dispensary and Hospital, and Reader in Medicine at the University of Leeds.

Glasgow Medical Journal — April, 1939

Undulant Fever: A Review with a Report of a Case. By Alice K. Montgomery, M.B., Ch.B., Assistant Physician, Ruchill Fever Hospital, Glasgow.

A Critical Review of the Steinach II. Operation as a Method of Treating Prostatic Obstruction. By Arthur Jacobs, F.R.F.P.S., Urological Surgeon, Glasgow Royal Infirmary.